

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF MASSACHUSETTS

MEGAN C. IRWIN and THOMAS L. )  
IRWIN, INDIVIDUALLY AND AS )  
FATHER AND NEXT FRIEND OF MINOR )  
CHILDREN M.1, M.2 AND T.1, )  
Plaintiffs ) CA No. 13-10974-ADB  
-VS- ) Pages 1 - 67  
ECLECTIC DINING, INC., d/b/a )  
ATLANTICA'S OLDE SALT HOUSE, )  
Defendant )

**JURY TRIAL - DAY FOUR - PART TWO**

BEFORE THE HONORABLE ALLISON D. BURROUGHS  
UNITED STATES DISTRICT JUDGE

United States District Court  
1 Courthouse Way, Courtroom 17  
Boston, Massachusetts 02210  
October 1, 2015, 1:48 p.m.

LEE A. MARZILLI  
OFFICIAL COURT REPORTER  
United States District Court  
1 Courthouse Way, Room 7200  
Boston, MA 02210  
(617) 345-6787

1     A P P E A R A N C E S:

2             SCOTT E. CHARNAS, ESQ., Charnas Law Firm, P.C.,  
3     66 Long Wharf, Boston, Massachusetts, 02110, for the  
4     Plaintiffs.

5             JOHN F. X. LAWLER, ESQ. and HEATHER M. GAMACHE, ESQ.,  
6     Prince Lobel Tye, LLP, 100 Cambridge Street, Boston,  
7     Massachusetts, appearing for the Defendant.  
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I N D E X

WITNESS

DIRECT

CROSS

REDIRECT

RECROSS

MARY HIBBARD

By Mr. Lawler:

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By Mr. Charnas:

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RANDALL BENSON, M.D.

By Mr. Charnas:

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By Mr. Lawler:

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By Mr. Charnas:

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P R O C E E D I N G S

(Resumed, 1:48 p.m.)

(Jury enters the courtroom.)

THE CLERK: Court is back in session.

THE COURT: Mr. Lawler.

MR. LAWLER: Thank you.

MARY HIBBARD

having been previously duly sworn, was examined and testified further as follows:

CONTINUED CROSS-EXAMINATION BY MR. LAWLER:

Q. I know I said that I was all done with the tests, but I wanted to go over one with you, Doctor, one more on the screen. If you could put up the same exhibit, No. 18, just the top of it please, the top. I think you talked a little bit, Doctor, yesterday about similarities. Did you say this involved abstract thinking?

A. Yes, it does.

Q. Okay. What is abstract thinking?

A. Abstract thinking is higher-order conceptual thinking, being able to tie discrete bits of information into a cohesive whole, being able to see the big picture rather than the details of something. It is really the kernel of an executive function.

Q. Okay. And how did Mrs. Irwin do with abstract thinking?

A. Her score was at the 50th percentile.

1 Q. The 50th percentile?

2 A. Correct.

3 Q. And you arrived -- do you see the test in front of you,  
4 "Similarities"?

5 A. Correct.

6 Q. So is that the score that arrives at that 50 percentile  
7 number?

8 A. Correct.

9 Q. Okay. So the maximum score I think is what, 36?

10 (Witness examining document.)

11 Q. I think it's on that page.

12 A. Yes. I'm sorry. I just found it.

13 Q. And Mrs. Irwin got a score of 25? Is that 25 or 26?

14 A. 25.

15 Q. And so I take it, if she gets more points on this  
16 particular test, then she would have a higher score for  
17 abstract learning; is that right?

18 A. That's correct.

19 Q. Okay. So if you would, please, could you focus in on  
20 Question 11. And before we talk about Question 11, when you do  
21 similarities, what do you do for the person who's the  
22 test-taker?

23 A. Exactly the same as I had done with the information  
24 subtest, except here I say, "I'm going to present two different  
25 words, and your task is to tell me how they are alike, what

1 they have in common, how are they similar."

2 Q. Okay. And specifically 11, it says "Music and tides,"  
3 right?

4 A. Correct.

5 Q. And her answer was, "Both make beautiful sounds," right?

6 A. That's correct.

7 Q. Isn't that really, I mean, a terrific abstract thought  
8 when you think about the beautiful sound that a tide makes and  
9 then also the beautiful sound that music makes? Isn't that  
10 like the highest form of abstract thinking?

11 A. Not according to the Wechsler Adult Intelligence Scale  
12 scoring system, no. In fact, it is a zero.

13 Q. But, okay, let's get away from the scoring system and talk  
14 you and I here. Don't you think that music and tides and that  
15 they both make beautiful sounds, that that's a really good  
16 abstract thought?

17 A. It's a component of abstract thought, but, again, one of  
18 the underlying principles of neuro-psych testing is that you  
19 use well-normed data that have standardized approaches to  
20 scoring, and whether you agree or not, you're not making the  
21 test up; this test is something you follow.

22 Q. Okay, and you gave her a zero on that?

23 A. That's correct, that's correct.

24 Q. Okay. And "Anchor/fence" on 13, "Fence to keep people in  
25 and out, and anchor to keep put." And you only gave Mrs. Irwin

1 a 1 on that, right?

2 A. That's correct.

3 Q. It didn't meet the criteria, the same thing?

4 A. It didn't meet the full criteria, correct.

5 Q. Thank you. That's all for the tests on the screen. We're  
6 going to talk about some other tests briefly.

7 Now, there's a test that's called the TOMM, the T-O-M-M.  
8 We talked about that earlier as well, right?

9 A. Correct.

10 Q. Okay. And that's an abbreviation for the Test of Memory  
11 and Malingering, right?

12 A. Correct.

13 Q. Okay, are you set?

14 A. Oh, yeah.

15 Q. I'm sorry. And this is a test of immediate recall,  
16 correct?

17 A. Yes, immediate visual recall.

18 Q. Which is basically short-term memory?

19 A. Uhm, it's short-term visual memory, yes. It's a component  
20 of it.

21 Q. Okay. And you would agree with me that people who have a  
22 brain injury often struggle with the TOMM, correct?

23 A. Uhm, that's kind of an over-generalized statement. It is  
24 not uncommon for individuals with significant injuries,  
25 particularly in the area of memory, to have difficulty with

1 this and difficulty passing the test itself.

2 MR. LAWLER: May I approach, your Honor?

3 THE COURT: Yes.

4 Q. Dr. Hibbard, I'm handing you your deposition transcript  
5 which was taken August 20, 2014. You remember that I came to  
6 New York City and deposed you; is that right?

7 A. That's correct.

8 Q. And you testified under oath that day, correct?

9 A. Correct.

10 Q. And then you had the opportunity to read the deposition  
11 transcript and correct any mistakes that were made, right?

12 A. Correct.

13 Q. And everything was basically signed under the pains and  
14 penalties of perjury, correct?

15 A. That's correct.

16 Q. Okay. And you have testified at depositions before,  
17 right?

18 A. Yes, I have.

19 Q. How many depositions do you think you've testified before?

20 A. Maybe thirty.

21 Q. Okay, I'm going to walk back to my podium, but I want you  
22 to look at Page 95.

23 (Witness examining transcript.)

24 MR. LAWLER: And, Counsel, I'm going to draw your  
25 attention to Lines 11 through 16.



1 Q. Now, let's back up a little bit. Do you see that we're  
2 talking about the TOMM during this discourse?

3 A. Correct.

4 Q. Okay. And the question on Line 11, when I ask you this, I  
5 say, "But isn't it also a test of immediate recall of memory?"  
6 I read that correctly, right?

7 A. Correct.

8 Q. And we're talking about the TOMM, right?

9 A. Correct.

10 Q. And your answer on Page 95, Line 13 through 16 is, "Yes,  
11 it is. It's one of the confines of individuals who have a  
12 brain injury. They often struggle with this; not all do, but  
13 some do." I read that correctly, right?

14 A. Right.

15 Q. Now, there is also a test known as the -- is it pronounced  
16 the TOPF?

17 A. T-O-P-F.

18 Q. T-O-P-F?

19 A. Test of Premorbid Functioning.

20 Q. Okay. And premorbid function is essentially the IQ of the  
21 person before the alleged date of the injury, right?

22 A. It is an estimated IQ based on reliable data.

23 Q. Okay. But you give the person the TOPF after the date of  
24 the alleged injury to determine what a rough estimate of their  
25 IQ was prior to the injury, right?

1 A. It is one of the measures and considerations for  
2 determining premorbid IQ.

3 Q. Okay. Now, you administered the TOPF to Mrs. Irwin,  
4 right?

5 A. Correct.

6 Q. And the score that she received was in the 32 percentile,  
7 correct?

8 A. That's correct.

9 Q. Okay, so you would agree with me that -- again, is the  
10 range for average in the TOPF, is it 25 to 74, just like we  
11 talked about before?

12 A. That range is interpreted as normal, as average behavior.

13 Q. Okay. And she's 32 percent at that particular as far as  
14 where she falls into the average range, right?

15 A. What that translates to is, 32 would be 58 percent of  
16 people do better than she does, or she does better than  
17 31 percent of people in her age group. You can look at it that  
18 way as well.

19 Q. Right. So she does better than 31 percent, but 58 percent  
20 do better than her?

21 A. Correct.

22 Q. Okay. No, actually it's 68 percent, isn't it?

23 A. I don't have a piece of paper. It's been a long day.

24 Q. Right, 68 percent?

25 A. 68 percent. Pardon my error.

1 Q. That's all right.

2 A. Thank you.

3 Q. That's all right. Okay. But I'm confused because you  
4 said that when you were considering her intellectual function,  
5 in the report, you put her at average to above average.

6 A. I did.

7 Q. Well, how can you be above average if 68 percent of your  
8 age group are above you?

9 A. The TOPF was one of the estimates I used to determine her  
10 IQ premorbidly. It's an estimate. It's based on demographic  
11 factors. It is, like many other tests, it's a word test that  
12 they have to recognize and be able to identify the word and say  
13 it correctly. Her performance on that test put her at the  
14 score that we were talking about, and that's a projection. I  
15 also included family history and educational levels. She's  
16 someone who went to college. Her family at least went to  
17 college and further degrees. There's been some discrepancy  
18 about how far. Her performance in her work performance clearly  
19 suggests somebody who was extremely skilled and did extremely  
20 well. That is suggestive that someone may have a little bit  
21 higher abilities. Not everybody -- she's the first one to say,  
22 "I really didn't love academics. I liked sports. I was never  
23 a super one for academics; the rest of my family was."

24 Q. Okay, thank you very much. Let's go back to the report.  
25 Let's look at Page 16.

1 A. Are we finished with the TOMM?

2 Q. We are.

3 A. And this?

4 Q. We are, we're finished with the TOMM and the deposition  
5 transcript. Thank you.

6 A. Okay.

7 Q. Let's go to Page 16, and it's the second-to-last  
8 paragraph, the one that begins with "The current  
9 neuropsychological evaluation."

10 A. Correct.

11 Q. Halfway down, do you see Mrs. Irwin's self-report?

12 A. Correct.

13 Q. Okay, it says, "Mrs. Irwin's self-report of symptoms  
14 raised concerns about potential of over-reporting with elevated  
15 scores on somatic, neurological, and emotional scales of the  
16 measure," right?

17 A. Correct.

18 Q. Okay. So you noted that she was doing over-reporting, and  
19 another word for "over-reporting" would be "exaggeration,"  
20 right?

21 A. Not necessarily.

22 Q. Okay.

23 A. It could be factual.

24 Q. It could be factual over --

25 A. It could be real symptoms that they're reporting.

1 Q. Yeah, but that would be factual reporting as opposed to  
2 over-reporting, right?

3 A. If someone has significant changes, as the case for  
4 individuals many times with a brain injury, they have many  
5 symptoms across somatic, some are physical, more physical  
6 concerns, emotional concerns. And what was the third one she  
7 had? And neurological, neurological. TBI is a neurological  
8 injury.

9 Q. Sometimes over-reporting can be conscious over-reporting,  
10 and it can be subconscious over-reporting, correct?

11 A. Uhm, that's true.

12 Q. The same thing with effort: Sometimes effort can be  
13 conscious lack of effort, and also there can be a subconscious  
14 lack of effort, right?

15 A. That's correct.

16 Q. And you certainly look for both conscious and subconscious  
17 lack of effort in cases that involve litigation, right?

18 A. That's correct.

19 Q. Because there's financial gain to be made, right?

20 A. That's correct.

21 Q. So it's safe to say that someone who's involved in a  
22 lawsuit, they actually could be involved in subconscious lack  
23 of effort and really not even know it, but know it I guess in  
24 their subconscious that whatever they're trying to produce will  
25 help their lawsuit, right?

1 A. Correct. However --

2 Q. No, there's no "however." You might get a "however" if  
3 Mr. Charnas offers that answer or question again.

4 A. I'm sure he will.

5 Q. So we can wait till then. Are you familiar, Doctor, with  
6 a Compendium of Neuropsychological Tests by Spreen and Strauss?

7 A. Yes.

8 Q. Do you consider this to be an authority in the field of  
9 psychology and neurological testing?

10 A. Authoritative? It's one of many, yes.

11 Q. Okay. Do you have this in your library?

12 A. I do not. Colleagues have it.

13 Q. Okay. And it says, "A particular difficult aspect of  
14 forensic report is the question of symptom validity: Was the  
15 patient cooperating fully?" You would agree with me on that,  
16 right?

17 A. Correct.

18 Q. Okay. And it says, "Are some or all of the symptoms  
19 valid, or are they influenced by a tendency to exaggerate or  
20 even to malingering?" And that's something that you have to  
21 determine, right?

22 A. That's something I have looked at in my assessment.

23 Q. Okay. And it says, "However, the problem is complicated  
24 by the fact that these tests," which are in your psychological  
25 tests, "can at best only indicate the motivational or emotional

1 factors -- e.g.," which means, you know, an example,  
2 "depression, anxiety, lack of effort maybe influence test  
3 performance," right?

4 A. That's what it says in the book.

5 Q. Well, do you agree with that?

6 A. There's points to be made that's counter to that, yes.

7 Q. Okay, I'm going to jump around a little bit to get done.  
8 Yesterday we talked a little bit about when Mrs. Irwin was  
9 speaking on the phone. Do you remember that? No, no, was  
10 taking the test and she was concerned about the phone, right?

11 A. Correct.

12 Q. Okay. And you indicated heightened anxiety regarding her  
13 children, right?

14 A. That's correct.

15 Q. Okay. Now, you would agree with me that she had  
16 heightened anxiety regarding her children, or at least one of  
17 her children, before the August 5, 2012 incident, right?

18 A. Yes, she did.

19 Q. She had a lot of heightened anxiety in regard to Michael,  
20 her son who had the heart problem, correct?

21 A. Correct.

22 Q. As a matter of fact, you know, for instance, that she  
23 complained to Dr. Sontz that she has not been able to trust the  
24 hospitals to take care of their son, which is Michael, right?

25 A. I don't remember that specific part of that review, but

1     that --

2     Q.   Well, let's bring it up and show it to you quickly.  It's  
3     41-A, middle of the page, please.

4     A.   I can barely read the writing.

5     Q.   Do you see that where it is?  It begins with "PT."  It's  
6     right above Psychiatric History, which is in the middle of the  
7     page of what you have highlighted.

8     A.   "... when she had a complete pelvic break," is that what  
9     you're talking about?

10    Q.   What's that?

11    A.   What section do you want me to read?

12    Q.   Well, do you see that in dark print, "Psychiatric  
13    History"?

14    A.   I see what you're --

15    Q.   Okay.  "Patient has not been able to trust the hospitals  
16    to take care of their son."  You would agree with me that  
17    that's a form of anxiety, correct?

18    A.   Yes.

19    Q.   Okay, thank you.  Now, at some point during your direct  
20    examination you testified that, in your opinion, Mrs. Irwin  
21    suffers from post-traumatic stress disorder, correct?

22    A.   That's correct.

23    Q.   And you gave her a diagnosis of 309.81, which is  
24    articulated in DSM-V, right?

25    A.   I don't know the PTSD numbers by heart, but I did diagnose



1 her with post-traumatic stress disorder.

2 Q. Do you want me to show you the text?

3 A. That would be fine.

4 Q. Show you?

5 MR. LAWLER: May I approach, your Honor?

6 THE COURT: Certainly.

7 Q. I'll leave this with you.

8 A. Okay, thank you.

9 Q. Now, I want you to clarify it in your own words, but you  
10 did diagnose Mrs. Irwin as suffering post-traumatic stress  
11 disorder from being hit with the umbrella; is that right?

12 A. That's correct. That was a precipitating issue.

13 Q. And did you essentially say that her post-traumatic stress  
14 disorder is the same type of stress disorder that the service  
15 members who are fighting in Iraq and Afghanistan have?

16 A. No, I did not. I said it is a common diagnosis for  
17 military individuals once they have finished their service.  
18 Many have also experienced traumatic brain injury, but  
19 post-traumatic stress disorder is another common diagnosis. In  
20 no way am I equating these two conditions.

21 Q. Very well.

22 A. But a post-traumatic stress disorder is a post-traumatic  
23 stress disorder, and it has criteria to meet it.

24 Q. Well, turn to Page 274, please. They talk about the  
25 diagnostic features of post-traumatic stress disorder, right?

1 A. Yes. That's the title.

2 Q. And it also talks about Criterion A, right?

3 A. I haven't read this, so I would need to read it, but I  
4 don't know where you're reading, if you would help identify --

5 Q. Well, why don't you do this, please, if you would. On  
6 Page 274 there's a feature called "Diagnostic Features"?

7 A. Correct.

8 Q. And at the beginning of that it says, "The essential  
9 feature of post-traumatic stress disorder (PTSD) is the  
10 development of characteristic symptoms following exposure to  
11 one or more traumatic events." Then the next paragraph states,  
12 "The directly experienced traumatic events in Criterion A  
13 include, but are not limited to, exposure to war as a combatant  
14 or civilian, threatened or actual physical assault; examples,  
15 physical attack, robbery, mugging, childhood physical abuse."  
16 Then "Threatened or actual sexual violence." Then it gives  
17 examples: "Forced sexual penetration, alcohol/drug-facilitated  
18 sexual penetration, abusive sexual contact, noncontact sexual  
19 abuse," and then "sexual trafficking." And then other  
20 examples: "Being kidnapped, being taken hostage, terrorist  
21 attack, torture, incarceration as a prisoner of war, natural or  
22 human-made disasters, and severe motor vehicle accidents." I  
23 read that correctly, right?

24 A. That's correct.

25 Q. Would you agree with me that being struck with the

1 umbrella on August 5, 2012, the three seconds that that event  
2 occurred, that that doesn't come close to any of those events  
3 that I just mentioned? Would you agree with that?

4 A. I would not.

5 MR. LAWLER: Very well. And that finishes my  
6 cross-examination. Thank you.

7 THE COURT: Redirect, Mr. Charnas?

8 REDIRECT EXAMINATION BY MR. CHARNAS:

9 Q. And why wouldn't you agree with that, Dr. Hibbard?

10 A. If you look at Page 271, the first criteria is "Exposure  
11 to actual or threatened death, serious injury or sexual  
12 violence in one of the following: directly experiencing the  
13 trauma, witnessing in person the event as it occurred --"  
14 "learning about the event" would be unrelated to her --  
15 "experiencing repeated or extreme exposure to aversive details  
16 of the event." That's like nightmares, things like that.

17 In a very brief period of time, Megan Irwin got to  
18 experience a life-threatening thing coming at her and her  
19 child, and she continued to experience flashbacks of that event  
20 when I saw her for initial testing. She had nightmares. She  
21 had nightmares of the event, recurrent nightmares. She was  
22 avoiding places and things. She was separating and distancing  
23 herself from her friends and her family, including her husband.  
24 Those are very traditional criteria. There are more criteria  
25 that go on down here, but she does meet that criteria. At that

1 point in time, it was the equivalent of something that was  
2 going to potentially kill her. She had no idea.

3 Q. Thank you.

4 MR. CHARNAS: May I approach, Judge?

5 THE COURT: Yes.

6 Q. The tests that you gave to Mrs. Irwin, are these tests  
7 generally accepted in your field as being accurate tests?

8 A. Yes, they are.

9 Q. How long have these tests been around?

10 A. Probably the oldest ones are the Wechsler Adult  
11 Intelligence Scale and the Wechsler Memory Scale. They're now  
12 on their fourth revisions or fifth revisions. I'm not sure if  
13 the fifths are coming out. They go back at least 25 or 30  
14 years. They're extensively normed across all age groups, and  
15 their scoring criteria is very definitive, and as a result,  
16 they really are -- they are the course gold standard for  
17 assessment.

18 Q. When you say "extensively normed," what does that mean in  
19 laymen's terms?

20 A. The norms require that the testing is administered to  
21 individuals without any known injury or anything wrong with  
22 them, in different age groups, and these require samples of  
23 thousands in order to establish a normal variation of people's  
24 performance so that they in many ways respect that normal curve  
25 of intellectual abilities.

1 Q. Let's talk about the IQ test. Mr. Lawler had gone over  
2 that with you in detail. Is that generally used in business  
3 and government and education to assess people?

4 A. Yes, it is. It's used extensively --

5 Q. Tell us about that.

6 A. It's used extensively in schools for school placements to  
7 rule out some sort of an educational pathology. It is used in  
8 personnel departments of businesses to ascertain individuals'  
9 creative thinking, overall intellectual stamina. What was the  
10 third area you wanted?

11 Q. That's enough.

12 A. Okay.

13 Q. In regards to the scoring that you did -- Mr. Lawler had  
14 gone over some of the scoring -- is that the Mary Hibbard  
15 scoring methodology that you used?

16 A. No, it is not. It's one of the reasons why this process  
17 takes so long. Each and every response of a person needs to be  
18 analyzed and gone through an external document that tells you  
19 what to do with that scoring.

20 Q. Now, you mentioned that you tested her effort, and I'm not  
21 going to go back over that, but there was something about that  
22 subconsciously, because she was involved in a lawsuit, it could  
23 have influenced her performance on the tests, and then you said  
24 "however." Do you remember that?

25 A. Yes. I'm trying to think of what it was now. Let me see.

1 Well, I'm not sure this is the answer at this moment, but,  
2 however, that was in relationship -- I know where it is now, it  
3 came back. It was in relationship to the personality test  
4 called the Multiphasic Personality Inventory, and the scoring  
5 of high somatic neurological and cognitive problems was the  
6 issue: Does that mean that she's over-trying to make a poor  
7 presentation of self? What I wanted to go on and say is that  
8 the MMPI manual is very explicit that over-reporting has to be  
9 considered in light of other extenuating medical conditions  
10 that very well may result in this over-reporting because the  
11 person has significant symptoms, and in this case, it was the  
12 case.

13 Q. Speaking of that, Mr. Lawler read to you a sentence on  
14 Page 16 of your report. Do you have your report in front of  
15 you?

16 A. I sure do. 16, okay, ready.

17 Q. And here's the sentence that Mr. Lawler -- sorry, Doctor.  
18 Mr. Lawler read this sentence to you in the second-to-last  
19 paragraph: "On personality assessment, Mrs. Irwin's  
20 self-report of symptoms raised concerns about potential of  
21 over-reporting, with elevated scores on somatic, neurological,  
22 and emotional scales of the measure."

23 A. Correct.

24 Q. I was going to say, did I read that right, but I guess I  
25 didn't. But here's the next sentence: "Over-reporting is

1 commonly noted in individuals with documented medical  
2 conditions who report critical symptoms related to their  
3 medical condition, MMPI-2-RF Manual." What did you mean by  
4 that?

5 A. That's the citation directly from the manual that  
6 forewarns you that you need to factor in that if there is some  
7 extenuating medical condition, the findings have to be in many  
8 ways discounted.

9 Q. Let me read the next sentence he didn't read:  
10 "Mrs. Irwin's self-reported symptoms on the personality  
11 inventory are congruent with her symptom report in prior  
12 medical documentation and documented in current testing. Thus,  
13 the personality assessment findings serve to validate  
14 Mrs. Irwin's TBI-related challenges post her accident of  
15 8/5/12." What did you mean by that?

16 A. I meant there were many -- let me backtrack for a second.  
17 On the MMPI, which is the personality measure, there are many  
18 factors that could score as elevated. Someone could -- I'll  
19 give you some examples just to kind of freshen it up. She  
20 could have -- well, she could have had a lot of symptoms, but  
21 the symptoms could be a thought disorder -- you know, unusual  
22 thoughts -- or they could be cynicism she could have had an  
23 elevated score on, or it could be ideas of persecution. There  
24 are many different factors that could become elevated. The  
25 point that makes these findings congruent with a diagnosis of

1 TBI is that her scores are elevated solely on somatic items,  
2 which are physical manifestations of an illness; neurological,  
3 which are reflective of her neurological injury; and emotional,  
4 which clearly have been demonstrated by her distress about her  
5 accident and her mood and her anxiety disorders.

6 Q. Doctor, changing gears here for a second, did you do  
7 anything to test to see whether any of Megan Irwin's answers on  
8 this test were influenced by psychiatric problems?

9 A. This would be the measure that you would be looking at.  
10 This would flag if somebody was schizophrenic, or paranoid, or  
11 any other number of observations.

12 Q. And what did you find?

13 A. They were not elevated at all.

14 Q. That ray test where there was talk about who could draw a  
15 straight line, who couldn't draw a straight line, was this some  
16 sort of artistic competition?

17 A. No, it is not.

18 Q. Does someone's ability to draw a straight or difficulty  
19 drawing a straight line, does that have anything to do with  
20 this test?

21 A. No, it doesn't. If the person has a continuous line -- it  
22 could be a little angled on the page, the rectangle could be  
23 angled on the page -- as long as everything in it is in its  
24 right place, it's scored.

25 Q. You mentioned something earlier, that it was not important



1 to you to know whether Megan Irwin suffered a loss of  
2 consciousness on the prior concussions. Do you remember that?

3 A. That's correct.

4 Q. What's the basis of that answer?

5 A. The prior concussions before I saw her?

6 Q. Yes.

7 A. The report from the patient is, she had no loss of  
8 consciousness on any of those events, and that her symptoms  
9 disappeared -- the important thing is that her symptom report,  
10 which was predominantly headaches, disappeared within a very  
11 short period of time. As I noted in my report -- let me see  
12 where that was -- I wrote it at the back of it -- it is  
13 important to pay attention to prior concussions, but her four  
14 prior concussions met the criteria for a mild concussion that  
15 resolved. This is not the case for her current event where she  
16 has persistent syndrome.

17 Q. Is there any evidence that she had persistent long-lasting  
18 symptoms of any kind after any of those prior concussions?

19 A. She did not. She denied any. And then I think we have to  
20 look at, these happened when she was fourteen, fifteen,  
21 sixteen. Maybe the last one or two might have been a little  
22 later. But she went on to college, finished the college  
23 degree, and then immediately started work, and then worked  
24 consistently right up until the time of her current injury and  
25 excelled in each of the positions she was in.

1 MR. CHARNAS: Thank you, Doctor. Those are all the  
2 questions I have.

3 THE COURT: Recross?

4 MR. LAWLER: Nothing further.

5 THE COURT: Doctor, you are excused.

6 (Witness excused.)

7 THE COURT: Mr. Charnas?

8 MR. CHARNAS: Dr. Randall Benson.

9 RANDALL BENSON, M.D.

10 having been first duly sworn, was examined and testified as  
11 follows:

12 THE CLERK: Please state your name and spell your last  
13 name for the record.

14 THE WITNESS: Randall Reed Benson, B-e-n-s-o-n.

15 MR. CHARNAS: May I proceed?

16 THE COURT: Yes.

17 DIRECT EXAMINATION BY MR. CHARNAS:

18 Q. Good afternoon, Dr. Benson. Tell us, what's your address?

19 A. My address?

20 Q. Yes.

21 A. It is 43000 West Nine Mile Road in Novi, Michigan.

22 Q. What's your occupation, Dr. Benson?

23 A. I'm a neurologist.

24 Q. Do you have a specialty within the field of neurology or a  
25 subspecialty?

1 A. Behavioral neurology.

2 Q. What's behavioral neurology?

3 A. Behavioral neurology is a subspecialization within  
4 neurology that essentially means that you're focused on brain  
5 disorders. As opposed to the spinal cord and the peripheral  
6 nervous system, my specialty is brain, and that means  
7 behavioral disorders, to some extent psychiatric disorders,  
8 specialization in memory and cognition, and over the past ten  
9 years a heavy emphasis on brain injury, traumatic brain injury.

10 Q. Please summarize for us, Doctor, your education, training,  
11 and experience in the field of medicine.

12 A. I went to medical school in St. Louis, or I should say I  
13 went to a college in St. Louis at Washington University,  
14 majored in biology and psychology, went to medical school at  
15 Hahnemann in Philadelphia, did an internship and then residency  
16 at a school called Boston University, and then fellowship  
17 training at Massachusetts General Hospital, Mass. General;  
18 spent six and a half years, including fellowship, using a new  
19 imaging technique, a new MRI imaging technique called  
20 functional MRI, and was heavily involved in early experiments  
21 using functional MRI to map the brain cognitively, again, with  
22 an emphasis on language processing; also had some training in a  
23 technique called diffusion tensor imaging that set the stage  
24 for application of this technique to head trauma beginning in  
25 about 2004. I think I'll stop there.

1 Q. Tell us about this diffusion tensor imaging. What is it?

2 A. Diffusion tensor imaging is an MRI technique. That is,  
3 it's done on a regular MRI scan, no special hardware required.  
4 It's a technique that is capable of measuring random motion of  
5 water molecules inside biological tissue. Now, this turns out  
6 to be very important because with trauma, or with destruction  
7 of white matter, fibers -- the brain, as you may know, is  
8 comprised of gray matter and white matter. The white matter  
9 takes the brunt of these traumatic injuries. Diffusion tensor  
10 imaging is able to identify areas of abnormal diffusion caused  
11 by destruction or injury to the white matter tissue.

12 Q. Tell us about your research and experience with diffusion  
13 tensor imaging.

14 A. So beginning in 2004, I, as I mentioned, turned my focus  
15 to brain injury, what we call "TBI," traumatic brain injury,  
16 and deployed this technique that we call "DTI," because it's  
17 kind of hard to say "diffusion tensor imaging" all the time, so  
18 DTI is the technique; began by looking at a large number of  
19 people with brain injury and comparing them using this  
20 technique with normal, healthy controls. And what we found in  
21 2007 and published in 2007 is that this technique was able to  
22 differentiate or separate all of the trauma cases from all of  
23 the healthy controls, and we published in the Journal of  
24 Neurotrauma and showed how we did that, looking exclusively at  
25 the white matter of the brain. Since then -- and I was at

1 Wayne State University in Detroit at the time, where I was for  
2 ten years, did extensive research involving veterans of Iraq  
3 and Afghanistan, so people with head injuries from war, blast  
4 injury and impact injury, in addition to studies involving  
5 former professional football players, and actually presented  
6 some of that work at the second NFL concussion hearing back in  
7 2010.

8 And so what we've done, generally speaking, is, we've  
9 looked at their clinical impairments using neuropsychological  
10 data, their symptoms. We also have our subjects complete  
11 questionnaires that cover a range of different symptoms, and  
12 then we do brain imaging. We do brain imaging with diffusion  
13 tensor imaging and a few other techniques, and what we have  
14 learned and published is that there is a real good correlation  
15 between what we find on the imaging and the symptoms that  
16 patients report, and even neuropsychological performance.

17 And I don't want you to think that it's just my lab that's  
18 doing this. There are a number of groups across the country  
19 and really all over the world who are doing this, and what we  
20 understand now is that particularly with the milder injuries,  
21 conventional MRI or CAT scan doesn't show the injuries. We  
22 need something more. Diffusion tensor imaging seems to be the  
23 most sensitive. That is to say, it seems to detect injuries  
24 when they exist, and it doesn't detect injuries when they don't  
25 exist.

1           Now, I'm not going to tell you that we can date these  
2       injuries because with this technique, we can't tell you whether  
3       it was an injury that occurred a month ago or ten years ago.  
4       But we can see the injuries, and we can relate the location of  
5       the injuries to the cognitive problems, the symptoms that  
6       people are having, and I think -- I think I'll stop there.

7       Q.    Doctor, would it be fair to call you a pioneer in this  
8       field?

9       A.    Hmm. Well, I would say that I'm probably one of the first  
10      people, one of the first scientists to use DTI for head trauma.  
11      DTI was used originally to study multiple sclerosis, which is  
12      another disorder involving damage to white matter, but I was  
13      one of the first to deploy this technique in head trauma.

14      Q.    I think earlier you said, "we" published a paper. When  
15      you said "we," did you mean you amongst some others?

16      A.    Yes. You know, obviously you don't do this work by  
17      yourself, so I had a team and continue to have a team, and I  
18      collaborate with other researchers at Wayne State University in  
19      Detroit, so I don't do any of this by myself.

20      Q.    Tell us briefly, after you completed your training as a  
21      physician, where did you work since then?

22      A.    Where did I work?

23      Q.    Yes.

24      A.    I've worked -- initially I took a job as an academic, as  
25      an attending neurologist on the faculty at University of

1 Connecticut in Farmington, Connecticut, and stayed there for  
2 five years, and after that -- well, I around that time got  
3 married and moved to my wife's hometown of Detroit, Michigan,  
4 so I was on the faculty again at Wayne State University for ten  
5 years, and after that, left to open up a nonprofit dedicated to  
6 head trauma.

7 Q. Tell us about that nonprofit. What's the name of it,  
8 Doctor?

9 A. The name of the nonprofit is The Center For Neurological  
10 Studies.

11 Q. What's the mission of The Center for Neurological Studies?

12 A. The mission of CNS is to push the needle on the diagnosis  
13 and treatment of traumatic brain injury.

14 Q. Have you been involved in research involving football  
15 players with head injury?

16 A. I have.

17 Q. Tell us about that.

18 A. Well, one of the first studies that I was involved with,  
19 when I was at Wayne State, our imaging group was contracted by  
20 the NFL to do the imaging portion of an outcome study that they  
21 were pursuing on retired football players. So we worked  
22 collaboratively, I guess you would say, with the NFL, and  
23 prescribed the imaging that we wanted done, including diffusion  
24 tensor imaging, and did the analysis of the imaging, and would  
25 send them reports. We were part of or coauthored an article

1 that came out last year on that data, and, as I mentioned, I've  
2 done -- I continue to see former NFL players. I've seen over a  
3 hundred in the past year and a half to two years as part of the  
4 class action suit evaluations, and every single one of those  
5 players or former players that I see signs a research consent  
6 form, so we have their data, and we're currently working on a  
7 publication involving that group of over a hundred players.

8 Q. Is there any part of that study, any important findings  
9 you can share with us?

10 A. Well, certainly one important finding is that most of the  
11 players, most of the former players that we've seen do have  
12 evidence of brain injury, which is not too surprising, given  
13 the repetitive impacts that they sustain. I can also tell you  
14 that almost every one of those former players has pituitary  
15 insufficiency, again, caused by trauma, so some of their  
16 symptoms are related to hormone insufficiencies.

17 Q. Have you ever testified before Congress about brain  
18 injury?

19 A. I did.

20 Q. Tell us a little bit about that, if you would, Doctor.

21 A. Well, I alluded to it earlier. Back in 2010, at the  
22 second NFL concussion hearing, I testified as both a treater of  
23 head-injured persons as well as a researcher, so I testified  
24 for about 20 minutes and talked about what at the time was not  
25 terribly well appreciated. This is 2010, and what a difference



1 five years makes because people weren't talking so much about  
2 concussions in football. They certainly weren't talking about  
3 the chronic degenerative problems that we now understand, the  
4 public now understands players deal with. So I talked about  
5 what we called the "silent epidemic," concussions and the  
6 persistent effects, and, as I mentioned, showed some imaging  
7 results, and made or tried to argue that the NFL should use the  
8 type of imaging that I presented on a regular basis. I felt  
9 that it's important to monitor their employees because they're  
10 employees. One way to monitor them over time was to do  
11 imaging. As you know, that is not something that has been  
12 invoked or employed by them, and I continue to think that it's  
13 a mistake.

14 Q. Is diffusion tensor imaging generally accepted in the  
15 medical community as a method of diagnosing traumatic brain  
16 injury?

17 A. I think that -- I mean, when you say "generally accepted,"  
18 I think it's generally accepted that the technique offers a  
19 lot, that it offers the potential to be standard of care. It's  
20 not standard of care yet. In the same way that functional MRI,  
21 it took ten years before it became the standard of care for  
22 mapping language areas in surgical patients before surgeries,  
23 so I think even those radiologists who aren't terribly familiar  
24 with it have read the literature. And certainly there are over  
25 8,000 articles published, peer-review articles on the subject,

1 and probably 1,000 or so where DTI has been applied to head  
2 trauma. Most people would say that it's only a matter of time  
3 before it becomes something that is used routinely all over the  
4 country.

5 Q. Doctor, at some point did I send Megan Irwin to you?

6 A. Yes.

7 Q. And did you arrange to have some brain imaging done on  
8 her?

9 A. I did.

10 Q. What type of imaging did you perform or have performed in  
11 regard to Megan Irwin?

12 A. Well, we did an MRI scan. The MRI scan lasts about an  
13 hour, and in that hour there are a number of sequences, a  
14 number of different types of MRI scans that are done. So you  
15 might think of it as a battery of MRI tests, not one test,  
16 because MRI uniquely has the capability of looking at many  
17 different aspects of biological tissue. And so historically  
18 what I like to do is to put as much in that battery as I can,  
19 understanding that the consequences of trauma are not singular.  
20 That is to say, it's not a true statement that the only finding  
21 when you look at the tissue after trauma is bleeding. I mean,  
22 there's more than that. There are a number of different kinds  
23 of pathology.

24 So we used standard conventional structural imaging.  
25 In addition, we used two sequences that are the most sensitive

1 sequences for looking at bleeding. We used the diffusion  
2 tensor sequence that I've talked about, and we did an  
3 additional research sequence that we haven't even looked at the  
4 results. We just -- we bank that data and we look at it later  
5 in time.

6 MR. LAWLER: Your Honor, can we have a sidebar?

7 SIDEBAR CONFERENCE:

8 THE COURT: How long will you be?

9 MR. LAWLER: I don't think it's going to be that long  
10 as long as it stays within the confines of the -- although I  
11 think -- can I make my argument first?

12 THE COURT: Yes.

13 MR. LAWLER: Your Honor, I think that we should stop  
14 right now with this witness. He basically said that this  
15 particular technique is not generally accepted in the field;  
16 it's not the standard of care. Now everything that he says  
17 beyond that becomes prejudicial. He should be knocked down the  
18 blocks right at this moment.

19 MR. CHARNAS: Dr. Greenwald testified that he used it  
20 in his practice, and I think what he's saying is that not every  
21 neurologist or physician uses it yet, but that's not the same  
22 as not being accepted as an accurate technique. I can clear  
23 that up.

24 THE COURT: I think he said that it was an accurate  
25 technique, but he did say it wasn't the standard of care, but I

1 think he said it's increasingly being used. So see if you can  
2 clear it up about its reliability.

3 MR. LAWLER: Oh, I think it has to go, you know,  
4 without a leading fashion. It has to be generally accepted in  
5 the field. I mean, I think it should there should be an  
6 open-ended question: Is DTI analysis, is it generally accepted  
7 in the field? And then if he says "yes," and then what's the  
8 reason for that, then I'm fine with it. If he says "no," I  
9 think his testimony should be stricken.

10 MR. CHARNAS: I think he's already made it clear that  
11 it's generally accepted as an accurate methodology.

12 THE COURT: I think that's what he said too. If you  
13 can clear it up, okay.

14 MR. LAWLER: Thank you.

15 (End of sidebar conference.)

16 BY MR. CHARNAS:

17 Q. Just to clear one thing up, is DTI generally accepted as  
18 being an accurate methodology for viewing damage to the brain  
19 or visualizing damage to the brain?

20 A. Yes, I would agree with you.

21 Q. Now, Doctor, you mentioned DTI. What other imaging was  
22 performed on Megan, if that's the right terminology I'm using?  
23 It was FLAIR and some other things but --

24 A. Yes, more specifically, we did a T1-weighted sequence, a  
25 T2-weighted sequence, a so-called FLAIR. We did a gradient

1 echo sequence, a susceptibility weighted sequence. The latter  
2 two are blood-sensitive techniques looking for hemorrhage, and  
3 then the DTI sequence.

4 Q. And, Doctor, have you reviewed the results of the MRI  
5 scans and these other scans you're talking about?

6 A. Yes, I have.

7 Q. Now, diffusion tensor imaging, does there have to be some  
8 sort of post-processing of the scans? Can you explain that to  
9 us.

10 A. Yes. Diffusion tensor imaging is a technique, as I  
11 mentioned, that's looking at microscopic changes in the tissue.  
12 It's not something you can see with the naked eye except in  
13 very, very extreme, severe trauma cases. So what we do in  
14 order to bring out the abnormalities is to compare a patient's  
15 brain images, DTI images, to a number of healthy control brain  
16 images. So there are, as Mr. Charnas alluded to, there are  
17 some steps that we call "post-processing" that then allow us to  
18 create a statistical map, and that statistical map is going to  
19 show us areas of the brain that are highly likely to be injured  
20 because they're showing up on the DTI as being very, very  
21 different relative to the healthy control group.

22 Q. Now, Doctor, hopefully this is going to show up on your  
23 screen in a moment. What are we looking at here?

24 A. Well, what we're looking at --

25 MR. CHARNAS: By the way, for the record, this is

1 Exhibit 49, your Honor. Sorry.

2 A. Okay, what we're looking at here are two ways of looking  
3 at the same brain slice. Now, this is one of those sequences.  
4 It's called a FLAIR sequence.

5 Q. By the way, this is Megan Irwin, right?

6 A. Yes, this is Megan Irwin's -- this is one slice of Megan  
7 Irwin's FLAIR image. Now, we acquire a three-dimensional set,  
8 so, in other words, we image the entire brain; but for Megan,  
9 there were a couple of slices that showed some scars, and you  
10 should see a couple of red squares, and inside those red  
11 squares are high signal areas, hyperintensities. Those  
12 hyperintensities are scars.

13 Now, the second image with the bright background is  
14 simply the light/dark reversed version, what we call "inverted  
15 contrast," so it's showing you the same information, just two  
16 different ways.

17 Q. What's the significance of the scars that you mentioned?

18 A. Well, we don't know for sure, but in somebody who has no  
19 other brain disorder, it's likely that scars like this in the  
20 white matter represent what we call "axonal injury" from  
21 trauma. Axons are these cable or wire-like processes inside  
22 the white matter, and axonal injury is the pathology that  
23 results most commonly with what we call "closed-head injury."

24 Q. Let's look at the next one, Doctor. What are we looking  
25 at here?

1 A. So we're looking at the same thing. That is to say, we're  
2 looking at axonal injury again. And what you see is a very  
3 sort of rounded, well-differentiated area of hyperintensity;  
4 and I think in particular, with this area or this lesion, it's  
5 located close to the gray matter, which is that ribbon-like  
6 structure that is out at the periphery of the brain. And when  
7 we see hyperintensities shaped like this, sized like this that  
8 are out of the periphery that occur kind of in isolation, that  
9 is most typical of trauma as a cause.

10 Q. Now, you mentioned that you had done a battery of these.  
11 Which one is this? Is this FLAIR we're looking at?

12 A. This is the FLAIR.

13 Q. And the one before that?

14 A. That was also FLAIR, so these are structural sequences.

15 Q. What are we looking at here?

16 A. Now we're looking at a statistical map of the DTI image.  
17 So you should see color. You should see blue and maybe even  
18 some green. Now, the way that we structure this is that  
19 anything that shows up in color exceeds a statistical  
20 threshold, which means that it's very, very reduced relative to  
21 the normals, and that is essentially an indication of breakage  
22 or damage to the axons in these blue areas.

23 Q. Just so it's clear, Megan Irwin doesn't have these blue  
24 dots in her head, obviously?

25 A. Right.

1 Q. So how are these created? What causes this to happen?

2 A. So the short answer to that is that we obtain a  
3 statistical map, a three-dimensional map with obviously  
4 thousands or hundreds of thousands of pixels. And what we do  
5 is, we impose a statistical threshold, and that statistical  
6 threshold might be two standard deviations. And we say, we  
7 essentially tell the software that anything, any voxel that  
8 exceeds that threshold gets put in color, and everything else  
9 ends up as black and white or gray. And so I hope that  
10 explains it.

11 Q. So would it be a -- I guess it would be an  
12 oversimplification, but basically do these dots indicate areas  
13 where the water is not traveling through the axons the way they  
14 should?

15 A. Yes, I would say that's a good general way to say it.  
16 Wherever you see color is an indication that in that tissue, in  
17 that volume of brain, there is an abnormality in terms of the  
18 water flow there, and it's indicative of injury.

19 Q. Let's look at what I think is the last slide. No, next to  
20 last. What's this?

21 A. This is essentially the same kind of image as the last  
22 image, but the only difference is that Megan Irwin was compared  
23 to a whole different control group here. And the point is  
24 really to illustrate that the results are really not about the  
25 control group; it's really about the patient. And that's



1 important because if the results depended on the control group  
2 to a large degree, we'd have to be exceedingly, exceedingly  
3 specific about who we included in the control group, all right?  
4 Now, the good news is that we don't have to do that because the  
5 findings -- let's put it a different way. The difference  
6 between Megan's water flow and the average person who has not  
7 had a brain injury is very large, so that gives it a certain  
8 robustness. And we could use any number of different control  
9 groups, and we would still get the same results.

10 Q. The last one, Doctor, what are we looking at here?

11 A. What we're looking at here is essentially the same data,  
12 the same results, but we've kind of presented it differently  
13 for you so that you can see where in the head, where in the  
14 brain some of these abnormalities live. So this is actually a  
15 three-dimensional reconstruction of Megan Irwin's FLAIR image,  
16 which allows you nicely to see the surface features, and it  
17 basically just gives you a good orientation to where some of  
18 these injuries reside.

19 Q. Doctor, what does the term "diffuse axonal injury" mean?

20 A. "Diffuse axonal injury" is a description of what you see  
21 if you were to cut open the brain and you were to go to the  
22 areas that were damaged and you were to use a particular stain,  
23 you would identify and you would locate in the tissue axons  
24 that are no longer, meaning that they've been removed because  
25 they've been damaged. You would also see areas in the tissue

1 where the axons are swollen beyond anything resembling an axon,  
2 what are called "retraction balls," and you would see scars.  
3 So axonal injury we know from about a hundred years' worth of  
4 research is appropriately named "diffuse," meaning it's all  
5 over the brain.

6 Now, what I'm going to tell you is that no matter  
7 where the impact comes from or no matter where the impact site  
8 is to the head, the brain is soft, and it's kind of a  
9 gelatinous consistency. When there's impact and when there's  
10 acceleration or deceleration of the brain, the brain deforms.  
11 It literally gets stretched or it compacts or it twists all  
12 over the brain, and so when we look at the tissue, we see  
13 little pockets of axonal injury all over the brain, regardless  
14 of where the impact was.

15 Q. Do these axons carry information for the brain? What  
16 function do they perform?

17 A. Think of these axons as being the cables of a computer  
18 network, right? So these axons are very long, and they connect  
19 neurons to each other in the same way that wires or cables do  
20 in an electrical network. So if some of those axons are  
21 damaged and not working, the network isn't going to work  
22 properly. And I think we all have experience with networks  
23 that aren't working properly, where things are slow, errors are  
24 made, the system goes down, all right? Well, that's exactly  
25 what a damaged brain does: It works slowly, inefficiently. It

1     fatigues, it goes down, and it's under much less control than  
2     it was before. The system isn't working properly.

3     Q. Doctor, based on your knowledge, education, training and  
4     experience that you told us about, and based on your review of  
5     these scans that we've been looking at, do you have an opinion  
6     as to whether Megan Irwin suffered at some point diffuse axonal  
7     injury?

8     A. There's no doubt in my mind.

9             MR. LAWLER: Objection, your Honor. Request a sidebar  
10     at this point.

11             THE COURT: Okay, come on up.

12     SIDEBAR CONFERENCE:

13             MR. LAWLER: I know that was not Mr. Charnas' fault,  
14     but the proper way is to say, is his opinion, yes or no, and  
15     then what is the basis of that opinion, and then I can  
16     articulate my objection. So I was unable to do that, but I  
17     want to state for the record that I'm objecting to this  
18     particular expert opinion, and the reasons which were stated  
19     earlier to include those in the motions in limine. But also,  
20     in regard to this, it's my understanding that he's not going to  
21     testify specifically that diffuse axonal injury is attributed  
22     to the August 5, 2012 incident. Is that correct?

23             MR. CHARNAS: Yes.

24             MR. LAWLER: Okay. But here we have a situation where  
25     we have an opinion that she has this diffuse axonal injury, and

1 it's out in left field. There's no causal connection  
2 whatsoever. No expert has articulated that; just to the  
3 contrary. So its probative value is minimal, but its  
4 prejudicial value is extensive, and it should be a situation  
5 where the testimony should be stricken. It hasn't been met.  
6 No one has been able to say. Just as I said before, to the  
7 contrary, there's been no -- you have to have a causal  
8 connection. You can't just have this injury out in left field.  
9 So that's my objection.

10 MR. CHARNAS: I would make several points. One is,  
11 this has already been ruled on. Secondly, there is no imaging  
12 technique, X ray, nothing, CAT scan, MRI, nothing, that shows  
13 the etiology of what's shown on the image. And the idea is  
14 that others have testified based on clinical analysis that she  
15 has brain damage, and this scan is consistent with that.

16 Now, he's free to cross-examine on the causal  
17 connection. No one has said that that we can show that it's  
18 caused by this particular incident, so there's no issue on  
19 that.

20 MR. LAWLER: But it's different from the objective  
21 X ray. The objective X ray shows, for instance, a broken arm,  
22 and then a doctor says, "I have an opinion that that's a broken  
23 arm and that it's attributable to this particular incident,  
24 this particular motor vehicle accident, this particular  
25 whatever." In this situation, there's none. It's out in left

1 field.

2 THE COURT: I understand the objection. I think it  
3 goes to the weight, and you should cover that in  
4 cross-examination.

5 MR. LAWLER: Okay, thank you.

6 (End of sidebar conference.)

7 BY MR. CHARNAS:

8 Q. Let me ask it again slightly differently. Based on your  
9 knowledge, training, and experience that you've laid out for us  
10 already, based on your review of these scans, yes or no, do you  
11 have an opinion as to whether Megan Irwin has suffered diffuse  
12 axonal injury?

13 A. I do have an opinion.

14 Q. Do you hold that opinion to a reasonable degree of medical  
15 certainty?

16 A. I do.

17 Q. And what is that opinion, Doctor?

18 A. That she did suffer diffuse axonal injury.

19 MR. CHARNAS: Thank you. That's all I have.

20 CROSS-EXAMINATION BY MR. LAWLER:

21 Q. Good afternoon, Doctor.

22 A. Good afternoon.

23 Q. I think we met over a video conference this summer at a  
24 deposition. My name is John Lawler, and I represent Eclectic  
25 Dining, the defendant in the case. First of all, I have a few

1 questions regarding your background. Sir, how many times have  
2 you been retained as an expert in a case in litigation  
3 involving DTI analysis?

4 A. Well, generally speaking, I'm retained as an expert, as a  
5 head injury expert, with additional admission as a neuroimaging  
6 expert. So how many times? You're talking deposition and  
7 trial or just trial?

8 Q. Well, let's just start with trial. For instance, how many  
9 times have you testified at trial as an expert?

10 A. I would say probably about twenty to twenty-five times.

11 Q. Okay. And how many times have you testified as an expert  
12 at depositions?

13 A. Uhm, oh, maybe a hundred or so.

14 Q. Okay. And that's in the past ten years or shorter than  
15 that?

16 A. The past six years, let's say.

17 Q. Okay. So you testified as an expert at trial in the last  
18 six years approximately what, twenty-five times?

19 A. Twenty to twenty-five, I guess.

20 Q. And then another hundred times in depositions?

21 A. Correct.

22 Q. And working as an expert, that's a large percentage of  
23 your practice; is that right?

24 A. Working as an expert, I evaluate on the average of two new  
25 patients a week. I see about eight patients in my private

1 practice a week.

2 Q. So you see two patients a week in regard to litigation  
3 matters?

4 A. Right.

5 Q. So that's a little bit over a hundred patients a year in  
6 litigation matters; is that right?

7 A. That's about right.

8 Q. Okay. So over the course of a given year, you're retained  
9 about a hundred times by lawyers who work on behalf of  
10 plaintiffs; is that correct?

11 A. That's correct.

12 Q. And it's safe to say that you derive a very large  
13 percentage of your income from working as an expert for  
14 plaintiff attorneys, correct?

15 A. Well, as I mentioned, I have a nonprofit, and the bulk of  
16 the revenue that funnels into the nonprofit is through medical/  
17 legal plaintiff-referred cases, each of which is a research  
18 subject. So our major mission, as I mentioned, is research and  
19 treatment, so this fuels it, but that is correct. My salary is  
20 a flat salary. I don't have -- my salary does not go up or  
21 down week to week depending on how many cases I see.

22 Q. Okay. Now, you're obviously charging Attorney Charnas for  
23 your time here testifying in Boston, correct?

24 A. Correct.

25 Q. How much are you charging to come to Boston and testify in

1 this particular case?

2 A. I'm not sure exactly because I don't handle the billing  
3 and the fee structure, but it's probably on the order of  
4 \$5,000.

5 Q. You don't know a figure, though?

6 A. No, I don't.

7 Q. Well, it's safe to say that when you were originally  
8 retained by Attorney Charnas, you insisted on being paid \$7,000  
9 up front, right?

10 A. Well, I didn't insist. I have other people that do the  
11 billing.

12 Q. Okay. Now, although you were retained by  
13 Attorney Charnas, Mrs. Megan Irwin was referred to you by  
14 another physician; is that right?

15 A. I don't -- I don't recall offhand.

16 Q. Okay. If I was to suggest to you that you were referred  
17 this case by a doctor in New Jersey by the name of Brian  
18 Greenwald, would that refresh your recollection?

19 A. Yes, I know Brian, and I wasn't sure if he referred or if  
20 the referral came directly from Mr. Charnas, but it was one or  
21 the other.

22 Q. Okay. Well --

23 MR. LAWLER: May I approach, your Honor?

24 THE COURT: Sure.

25 Q. Sir, what I'm going to do is, I'm going to show you your



1 deposition transcript and have you identify it, and then I'm  
2 going to go back to the podium and ask you some questions.

3 Fair enough?

4 A. Yes.

5 Q. If you look at this, this is deposition testimony, a video  
6 conference deposition that was provided on August 14, 2014, in  
7 the case of *Irwin v. Eclectic Dining*. Do you see that?

8 A. I do.

9 Q. Okay, and you remember giving testimony in that particular  
10 case?

11 A. Hmm, vaguely.

12 Q. Well, that's because you give a lot of testimony at  
13 depositions, so it's sometimes tough to remember, right?

14 A. Well, that, and it's been a while.

15 Q. Okay. Well, would you agree with me that when you give  
16 deposition testimony, you raise your right hand and you swear  
17 to tell the truth and all that, right?

18 A. Correct.

19 Q. So help you God, right?

20 A. Correct.

21 Q. And that's what you did today as well, right?

22 A. Right.

23 Q. Now, I'm going to give you that deposition transcript, and  
24 I'm going to go back to the podium and I'm going to have some  
25 questions for you. Now, could you please --

1 MR. LAWLER: Counsel, it's Page 8.

2 A. Okay.

3 Q. And actually I think the question begins on Page 7, so if  
4 you can turn to Page 7, the question on Line 25, "And were you  
5 retained by her attorney, Scott Charnas?" I read that  
6 correctly, right?

7 A. Yes.

8 Q. And on Page 8, if you could turn to your answer on Line 1,  
9 it says, "My understanding is that I was referred by another  
10 physician, but that I was retained by Mr. Charnas."

11 I read that correctly, right?

12 A. Yes.

13 Q. And then I asked you the question on Line 3, "Okay, and  
14 who was the other physician that referred you?"

15 I read that correctly, right?

16 A. Yes.

17 Q. And the answer on Line 5 is "Brian Greenwald," correct?

18 A. Correct.

19 Q. So I would assume that that refreshes your recollection so  
20 that you now know that Dr. Brian Greenwald referred you this  
21 particular case, correct?

22 A. Uhm, yes. I'm not sure that even at that time I was a  
23 hundred percent certain, but apparently a year ago, or more  
24 than a year ago, my memory was a little clearer about this, and  
25 I did say Brian Greenwald, yeah.

1 Q. Okay. And actually you've come across Dr. Greenwald at  
2 conferences where you both lecture about brain injury, correct?

3 A. That's true, probably about four or five times over the  
4 years.

5 Q. Okay, so you basically teach at conferences that are run  
6 by lawyers who are plaintiff attorneys, correct?

7 A. That's true, in addition to medical conferences, but that  
8 particular one is legal affairs, that's true.

9 Q. Okay. But you do teach at seminars in which lawyers  
10 attend who are interested in litigating brain injury cases,  
11 right?

12 A. True, true.

13 Q. And you also see Dr. Brian Greenwald in those situations  
14 as well, right?

15 A. As I mentioned, I've seen Brian probably about four or  
16 five times in my life, right.

17 Q. Okay. Now, let's talk briefly about some of the testimony  
18 regarding work that you've done in the past, and you talked  
19 about work that you've done in regard to professional football  
20 players, right?

21 A. Correct.

22 Q. And would you agree with me that in the realm of brain  
23 injury, that football players are members of a unique set of  
24 the population, right?

25 A. How do you mean? I'm not sure what you're referring to.

1 Q. Well, you realize that, for instance, there's been a lot  
2 of talk in the media about professional football players and  
3 brain injuries due to concussions, right?

4 A. Yes.

5 Q. Okay. So you would agree with me that someone, let's say,  
6 for instance, someone who's played professional football for  
7 five years, that by definition they have had numerous head  
8 impacts during the course of their career, right?

9 A. I agree.

10 Q. Okay. So, for instance, someone who played professional  
11 football may have played Pop Warner football, right?

12 A. Correct.

13 Q. Okay. And Pop Warner football is football for the younger  
14 kids, right?

15 A. Right.

16 Q. Okay. And someone who played professional football most  
17 likely played in high school, right?

18 A. Correct.

19 Q. And because professional football players are the best of  
20 the bunch, they probably played both ways, right? Do you  
21 understand what that means?

22 A. I do, but that's not necessarily true.

23 Q. Okay. And when I say a football player plays both ways,  
24 that means he plays both on offense and on defense, right?

25 A. And special teams.

1 Q. And special teams, right, okay. Now, in addition, a  
2 professional football player typically plays four years of  
3 college football, right?

4 A. Uhm, plus or minus, but, yes.

5 Q. Okay, some may leave earlier for the draft, but for the  
6 most part, they played four years in a college, right?

7 A. Right.

8 Q. Okay. And, also, the level that they play football at in  
9 the college level is at a very high level, right?

10 A. Correct.

11 Q. Typically like, for instance, Division 1, Notre Dame,  
12 Northwestern, you know, University of Miami, colleges like  
13 that, right?

14 A. Uhm, yeah.

15 Q. Okay. So before they even reach the pro level, these  
16 football players have played for years and years, right?

17 A. Right.

18 Q. And they have for the most part suffered numerous impacts  
19 on Saturdays and Sundays when they play, right?

20 A. Right.

21 Q. Numerous impacts to the brain, right?

22 A. Uhm, well, impacts to the body, which ultimately result in  
23 movement of the brain, and oftentimes symptoms suggesting  
24 concussion, but oftentimes no symptoms.

25 Q. Okay. But also, for instance, not only do they suffer

1 impacts when they play on Saturday and Sundays or high school  
2 Friday nights, but they also play or practice during the week,  
3 right?

4 A. Right.

5 Q. And they hit all the time, right?

6 A. Well, not all the time but --

7 Q. Quite a bit?

8 A. Quite a bit, yes.

9 Q. Okay. So some of these professional football players,  
10 and, again, when they're playing professional football, whether  
11 they're trying out for a team or they're playing on Sundays,  
12 they're also involved in a lot of hitting, right?

13 A. It's a violent game.

14 Q. Right. And so this set of professional football players,  
15 I mean, some of them have had, you know, 50 to 75 occasions of  
16 basic head injuries, right?

17 A. Well, it depends on what you mean by a basic head injury.  
18 I'm not sure I know what you're referring to.

19 Q. Well, for instance, you know, like, for instance, there's  
20 a term when you play football when you get your bell rung,  
21 right?

22 A. Right.

23 Q. And we know that, you know, football players get their  
24 bell rung, and they go back out on the field, right?

25 A. Absolutely, right.

1 Q. You know, I mean, whether it's someone like Wes Welker --  
2 do you know who Wes Welker is?

3 A. Sure.

4 Q. Okay, someone who's played professional football for a  
5 number of years and has had a multitude of concussions, right?

6 A. Absolutely.

7 Q. And probably a number of multiple undiagnosed concussions,  
8 right?

9 A. Absolutely.

10 Q. So it's a very different population than, you know,  
11 someone, like, who just goes to work in an office from 9:00 to  
12 5:00, right?

13 A. Somebody whose job it is to suffer head impacts versus  
14 somebody who works in an office, which is, I think, a  
15 noncontact sport, yeah, that's pretty different.

16 Q. Okay. So, for instance, if a football player, let's say  
17 at age thirty years old who's played, you know, eight years in  
18 the NFL, if you do DTI scans on that individual and there's a  
19 lot of disturbances to the white matter, it's safe to say that  
20 you cannot tell what caused the changes to the white matter  
21 during the course of that player's career, right?

22 A. That's correct.

23 Q. So the damage could have occurred when that player played  
24 in Pop Warner, right?

25 A. Could have, yeah.

1 Q. It could have occurred when that player played in high  
2 school, right?

3 A. True.

4 Q. It could have occurred any year when that player played in  
5 college, right?

6 A. Absolutely.

7 Q. And the same thing, anytime during that particular  
8 person's career in the NFL, right?

9 A. Yes.

10 Q. You just don't know, right?

11 A. That's right.

12 Q. And in reference to Mrs. Irwin's DTI sequences, you don't  
13 know when the alleged axonal damage that you see in those DTIs  
14 occurred, right?

15 A. I cannot be certain, that's true.

16 Q. Okay. Now, let's talk briefly about the report that you  
17 completed. Do you have a copy of that report, Doctor?

18 A. I do.

19 Q. Now, the report is dated, or the date of the service,  
20 which means the MRIs were taken on April 5, 2014; is that  
21 right?

22 A. Correct.

23 Q. Okay. And, first of all, when those MRIs were taken, they  
24 were taken in Detroit, Michigan, right?

25 A. Correct.



1 Q. And the name of the hospital where they were taken, is it  
2 Harper Hospital?

3 A. It is.

4 Q. And are you affiliated with Harper Hospital?

5 A. Not now, but I was.

6 Q. Okay, so were you affiliated with Harper Hospital when  
7 these MRIs were taken?

8 A. No, but my protocol is still used, and that's what I  
9 request.

10 Q. Okay. You are not a radiologist, right?

11 A. Correct.

12 Q. Okay. You can read some MRIs but not all MRIs; is that  
13 right?

14 A. I can read all MRIs. My focus is in brain MRIs, and  
15 particularly the sequences that I ordered for Megan, the trauma  
16 sequences, but there are a number of other types of MRIs that  
17 I've read for many years.

18 Q. Okay. So getting back to Mrs. Irwin, she goes to Harper  
19 Hospital and she's put through a regular MRI scan, right?

20 A. Right.

21 Q. Okay. And you are not there, correct?

22 A. That's correct.

23 Q. It's done by what, a radiologist technician?

24 A. No. An MRI technologist.

25 Q. Okay. And then a CD is produced, is that right? Is it a

1 CD?

2 A. Yes.

3 Q. Okay, so a CD is produced that has the various sequences  
4 on it, right?

5 A. Right.

6 Q. And then one of your technicians comes and retrieves the  
7 CD, right?

8 A. That's right.

9 Q. And then that technician then processes the MRI; is that  
10 right?

11 A. Right.

12 Q. And there's quite a bit of processing that's done to the  
13 DTIs, right?

14 A. Right.

15 Q. And is it done on a computer scan?

16 A. It's done on a computer, right.

17 Q. Okay, it's done on a computer?

18 A. Right.

19 Q. All right. And essentially what you're doing is, you're  
20 essentially comparing the sequence of Mrs. Irwin to a certain  
21 number of people that you think are normal; is that right?

22 A. Well, to the best of our ability without -- without  
23 getting medical records on these people, that's true.

24 Q. Okay. So it's a comparison to a sample? Would you call  
25 it a normative sample?

1 A. Well, a reference group, a normal reference group, control  
2 group; just like, you know, if you had a chemistry lab, they  
3 would reference the results against a normal reference group.

4 Q. And the reference group that you use is 87 subjects; is  
5 that right?

6 A. No. We have a number of different control groups. In  
7 fact, the images that I showed were done on two different  
8 control groups.

9 Q. And how many numbers in those control groups?

10 A. Thirty-seven and twenty-five.

11 Q. Oh, so it's less than -- so you're comparing that, that  
12 particular sequence, to 25 people?

13 A. Comparing Megan's images to a group of 25 and a group of  
14 37, that's correct. We don't need more than that.

15 Q. Okay. Now, you took a number of sequences, T1, T2, FLAIR,  
16 SWI, DTI, and gradient echo, correct?

17 A. Correct.

18 Q. Okay. Now, in reference to the T1 sequence, that revealed  
19 no abnormalities with Mrs. Irwin; is that correct?

20 A. That's correct.

21 Q. And in reference to the T2, did that also reveal no  
22 abnormalities?

23 A. No. There were abnormalities on the T2.

24 Q. Abnormalities? I'm sorry. Is that the FLAIR T2?

25 A. Well, that's FLAIR and T2. Those are two different

1 sequences.

2 Q. Okay. They revealed subcortical hyperintensities; is that  
3 correct?

4 A. That's correct.

5 Q. And what does that word mean, "subcortical"?

6 A. It means under the cortex.

7 Q. Okay. Would you agree with me that white matter changes  
8 under the cortex normally don't occur in brain injury patients?

9 A. No, I would not agree with that.

10 Q. Now, the subcortical hyperintensities, is that damage to  
11 the axons?

12 A. Yes.

13 Q. And are there other brain disorders that also reveal  
14 damage to the subcortical area of the brain, not trauma but  
15 other brain disorders?

16 A. Is that a question? I didn't get the question. I'm  
17 sorry.

18 Q. Okay, I'm sorry. Are there brain disorders which produce  
19 subcortical hyperintensities? That's the question.

20 A. There are a few.

21 Q. And can you name them?

22 A. Vasculitis can do it. Metastases from distal primary  
23 cancers can do it. Certain infections can do it. Those are  
24 the most common.

25 Q. How about MS?

1 A. MS tends not to be subcortical. It tends to be deep. It  
2 tends to involve the corpus callosum. It's less likely to be  
3 at the gray-white junction or subcortical.

4 Q. Now, there are obviously certain symptoms -- I'm not  
5 talking about Mrs. Irwin; I'm just talking in general -- but  
6 there are obviously certain symptoms of brain injury or  
7 brain-injured patients, correct?

8 A. Correct.

9 Q. Okay. Is it true that the images that show up to white  
10 matter on DTIs cannot translate into specific symptoms that a  
11 particular person has?

12 A. Yes and no. Certainly we have some understanding about  
13 what parts of the brain are responsible for different  
14 functions, and we certainly expect, for instance, that a  
15 cluster of white matter lesions along the sylvian fisher in the  
16 left hemisphere will result in language problems. So, yeah, we  
17 do have some general understanding about those things, but we  
18 can't say exactly what a patient is going to look like given  
19 their imaging, that is true.

20 MR. LAWLER: One moment, your Honor. I may be done.  
21 Let me check with my colleague. I have a couple questions, but  
22 I'm pretty close to being done.

23 (Discussion off the record between defense counsel.)

24 Q. Now, Doctor, as was said before, the DTI cannot pinpoint  
25 what, if any, injury occurred to a particular patient at a

1 specific point in time, right?

2 A. I'm not sure I understand your question.

3 Q. Okay. Well, again, if a particular person -- well, first  
4 of all, we all have white matter, right?

5 A. Right.

6 Q. Okay. And some people are born with a congenital  
7 condition that brings about white matter changes. Do you agree  
8 with that?

9 A. I'm not sure what congenital condition you're talking  
10 about.

11 Q. Okay. Well, we learned about that through Dr. Greenwald  
12 earlier, so I guess I'll have to defer to him. So there's no  
13 congenital condition that you know that brings about early  
14 white matter changes to someone's brain. Is that an accurate  
15 statement?

16 A. No. There are leukoencephalopathies that occur that are  
17 genetically predetermined. So, yeah, I mean, those are rare,  
18 but they do occur.

19 Q. Okay. And also, as people age, they also, for instance,  
20 go through white matter changes, right?

21 A. Uhm, as we age, we lose white matter and we lose gray  
22 matter in a linear fashion throughout our life span, that's  
23 true.

24 Q. Starting when?

25 A. In our twenties.

1 Q. Okay. And does that progression, that linear progression,  
2 does that show up on your DTIs?

3 A. Uhm, well, we're not doing a volumetric analysis, so the  
4 loss of tissue is not going that DTI looks at. There is a  
5 reduction in, as we talked about, FA, or fractional anisotropy  
6 with age, and that is something that we do take into account  
7 and eliminate the effect of.

8 Q. Now, if someone has had a series of concussions throughout  
9 their lifetime, one that occurred, for instance, in teenage  
10 years, one that occurred in college years, and then one that  
11 occurred in the middle twenties or late twenties, so let's say  
12 you have three concussions, again, if you take a DTI analysis,  
13 a sequence, you can't tell where the white matter changes  
14 belong to, right?

15 A. Well, to the extent that one of those injuries might be  
16 much more severe than another, and the symptoms are relatively  
17 well localized, let's say, to one hemisphere versus the other,  
18 we might indeed be able to associate a specific injury to the  
19 brain imaging findings.

20 Q. Okay, but you certainly haven't done that in Ms. Irwin's  
21 case, right?

22 A. I was not asked to do that, so that's true.

23 Q. Okay, fair enough. Now, in the situation you said earlier  
24 where if someone suffers a more severe impact, then you might  
25 be able to dictate where that is, is that right, on the DTI

1 sequence?

2 A. Uhm, right.

3 Q. So when we're talking about severity, do you agree that --  
4 let's say there's four events where someone has a concussion  
5 under the criteria of concussion, and one of those events  
6 results in loss of consciousness for a period of two minutes,  
7 and the other ones have loss of consciousness for only a couple  
8 seconds, do you expect the DTI analysis to show that the white  
9 matter changes belong to the loss-of-consciousness event versus  
10 the other events?

11 A. A brief loss of consciousness does not equate with  
12 severity. In fact, there's some data suggesting that there's a  
13 better prognosis in sports concussion when there is a loss of  
14 consciousness compared with an absence of loss of  
15 consciousness.

16 Q. So loss of consciousness really doesn't have any play in  
17 the situation?

18 A. Not a brief loss of consciousness. If it's, you know,  
19 24 hours or longer, that's highly significant.

20 MR. LAWLER: That's all I have. Thank you very much,  
21 Doctor.

22 MR. CHARNAS: Just a very few questions, Judge.

23 THE COURT: Yes.

24 REDIRECT EXAMINATION BY MR. CHARNAS:

25 Q. Following up on Mr. Lawler's questions, if a persons has



1 had significant postconcussion syndrome symptoms clustered  
2 around one event and not another, would you be able to  
3 determine which event caused the diffuse axonal injury?

4 A. That's a good question. I'm not sure I know the answer to  
5 that question yet.

6 Q. Doctor, you had mentioned earlier that you felt -- forgive  
7 me if I get the numbers wrong -- that 25 to 37 people in your  
8 normative or control group were sufficient?

9 A. Yes.

10 Q. What's the basis of your answer?

11 A. We've done statistical modeling, and given the variance in  
12 the results in the control group, we only need about 10 to  
13 begin to see statistical significance for a given patient.

14 Q. Doctor, Mr. Lawler asked you about whether you lectured to  
15 plaintiffs' attorneys. Do you remember that?

16 A. I do.

17 Q. Have you ever been invited by defense attorneys to attend  
18 a lecture of yours or to have you come to lecture to them about  
19 imaging techniques that accurately depict brain injury?

20 A. No, but I would love to.

21 Q. They don't seem to be interested?

22 A. For some reason, they don't seem to be interested, that's  
23 true.

24 MR. CHARNAS: Thank you.

25 MR. LAWLER: I have nothing further. Thank you, your

1 Honor.

2 THE COURT: Doctor, you are excused.

3 (Witness excused.)

4 THE COURT: All right, jurors, you are also to be  
5 excused today. We only have two minutes left, so we'll recess  
6 for the day. Tomorrow we'll start at 9:00, so you will have to  
7 be in rush hour traffic, but we'll have you out of here before  
8 lunch. And my same standing instructions, so don't talk to  
9 each other, don't talk to anybody else, keep an open mind about  
10 what you've heard until the close of the evidence, and have a  
11 good night.

12 THE CLERK: All rise for the jury.

13 (Jury excused.)

14 THE COURT: Who's on deck for tomorrow, Mr. Charnas?

15 MR. CHARNAS: I'm sorry?

16 THE COURT: Who are we seeing tomorrow?

17 MR. CHARNAS: It's going to be the restaurant lineup,  
18 your Honor. It's going to be Caitlin Hildreth, it's going to  
19 be Meghan O'Neil, and it's going to be Joseph Campbell, and if  
20 we finish those three, it will be Mrs. Connolly, Megan Irwin's  
21 mother.

22 THE COURT: Anything else?

23 MR. CHARNAS: I don't think we'll get beyond that,  
24 but --

25 THE COURT: No, anything else we can do this

1       afternoon?

2               MR. CHARNAS: Oh, no, I don't believe so, Judge.

3               THE COURT: Okay, see you tomorrow.

4               MR. CHARNAS: Thank you, your Honor.

5               MR. LAWLER: Thank you, your Honor.

6               (Adjourned, 3:45 p.m.)

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C E R T I F I C A T E

UNITED STATES DISTRICT COURT )  
DISTRICT OF MASSACHUSETTS ) ss.  
CITY OF BOSTON )

I, Lee A. Marzilli, Official Federal Court Reporter,  
do hereby certify that the foregoing transcript, Part 2,  
Pages 1 through 67 inclusive, was recorded by me  
stenographically at the time and place aforesaid in Civil  
Action No. 13-10974-ADB, Megan C. Irwin v. Eclectic Dining,  
Inc., and thereafter by me reduced to typewriting and is a true  
and accurate record of the proceedings.

Dated this 2nd day of June, 2016.

/s/ Lee A. Marzilli

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LEE A. MARZILLI, CRR  
OFFICIAL COURT REPORTER